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09/446,330	03/23/2000	SERGEY E YAKOVENKO	8733.20069	2163

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SONG K JUNG  
LONG ALDRIDGE & NORMAN  
701 PENNSYLVANIA AVENUE NW  
SUITE 600  
WASHINGTON, DC 20004

EXAMINER

DUDEK, JAMES A

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/446,330

Applicant(s)

YAKOVENKO ET AL.

Examiner

James A. Dudek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8-14 and 16-70 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,4,5,10-14,16-23,31-37 and 44-70 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6,8 and 9 is/are allowed.
- 6) ☒ Claim(s) 24,25,27-30,38 and 40-43 is/are rejected.
- 7) ☒ Claim(s) 26 and 39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24- are rejected under 35 U.S.C. 102(b) as being clearly anticipated by 41.2 No-Rub Multi-Domain TFT-LCD Using Surrounding-Electrode Method (“41.2”).

Per claim 24, 41.2 teaches a liquid crystal display device comprising: first and second substrates [not shown but inherently needed to support the elements of the cell], each of the first and second substrates having a transparent conductive layer [see figure 1 and counter electrodes, direction control electrode and pixel electrode]; and a liquid crystal layer between the first and second substrates [see LC], wherein said liquid crystal display is an electrically controlled birefringence type [see vertically aligned LC] and at least one transparent conductive layer has a first conductive portion [the pixel electrode is the first] and a second conductive portion [the direction control electrode], the second conductive portion being spaced from the first conductive portion [see figure 3].

Per claim 25, 41.2 teaches a liquid crystal display device according to claim 24, wherein the first portion and the second portion each correspond to first and second electric fields [see figure 3].

Per claim 27, 41.2 teaches a liquid crystal display device according to claim 24, further comprising an alignment layer over the transparent conductive layer [see alignment layer in figure 1].

Per claim 28, 41.2 teaches a liquid crystal display device according to claim 27, wherein the alignment layer

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includes a homeotropic alignment layer [see page 869, second column, first paragraph].

Per claim 29, 41.2 teaches a liquid crystal display device according to claim 24, wherein the liquid crystal layer includes a negative dielectric anisotropy liquid crystal [see page 869, second column, first paragraph].

Per claim 30, 41.2 teaches a liquid crystal display device according to claim 24, wherein the liquid crystal display device is a multi-domain liquid crystal display device [see figure 1].

Claim 38 A liquid crystal display device comprising: first and second substrates [not shown but inherently needed to support the elements of the cell], each of the first and second substrates having a transparent conductive layer [see figure 1 and counter electrodes, direction control electrode and pixel electrode]; and a liquid crystal layer between the first and second substrates [see LC], wherein said liquid crystal display is an electrically controlled birefringence type and at least one transparent conductive layer has a first conductive portion and a second conductive portion, the second conductive portion being spaced from the first conductive portion, the first conductive portion and the second conductive portion each correspond to first and second electric fields [see figures 1 and 3, the first electric field is the right side of the figure and the second electric field is the left side of the figure] and each of the first and second conductive portions of the transparent conductive layer has an end portion, the end portion distorting a corresponding electric field [the very last line representing the electric is shown at the end portion and creates a distorting portion].

Per claim 40, 41.2 teaches a liquid crystal display device according to claim 38, further comprising an alignment layer over the transparent conductive layer [see figure 1].

Per claim 41, 41.2 teaches a liquid crystal display device according to claim 40, wherein the alignment layer includes a homeotropic alignment layer [see figure 1].

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Per claim 42, 41.2 teaches a liquid crystal display device according to claim 38, wherein the liquid crystal layer includes a negative dielectric anisotropy liquid crystal [see page 869, second column, first paragraph].

Per claim 43, 41.2 teaches a liquid crystal display device according to claim 38, wherein the liquid crystal display device is a multi-domain liquid crystal display device [see figure 1].

***Allowable Subject Matter***

Claims 6-8 are allowed.

Per claim 6 and its associated dependent claims, the closest prior art [41.2 No-Rub Multi-Domain TFT-LCD Using Surrounding-Electrode Method] teaches a liquid crystal display with wide viewing angle comprising nematic liquid crystal with negative dielectric anisotropy [see page 869, second column, first paragraph] placed between flat parallel substrates supplied with conductive electrodes [see figure 1] and homeotropic aligning layers [see page 869, second column, first paragraph], orientation of the said liquid crystal is made non-uniform within the pixel area by means of the parallel to the said substrates components of the electric field applied to the said electrodes [see figure 1 and electric field lines in figure 1], while the components themselves have various directions. The prior art fails to teach or suggest the above limitation in combination with the “odd and even sections of the at least one of the said electrodes been made sectional are connected to the electric field sources of the opposite polarity.”

Claims 26 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

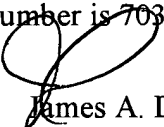
Per claims 26 and 29 the prior art teaches a liquid crystal display device according to their independent but fails to teach the first and second electric fields have opposite polarities.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Dudek whose telephone number is 308-4782. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7721 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



James A. Dudek  
Primary Examiner  
Art Unit 2871

July 9, 2003